

**AMENDMENTS TO THE CLAIMS**

1-8. (Canceled)

9. (Currently amended) An OX2R-binding ~~compound~~ antibody or an antigen-binding fragment thereof, comprising an antigen binding site from a substantially pure or recombinant antibody, wherein the antibody specifically binds to a polypeptide ~~comprising~~ consisting essentially of mature SEQ ID NO:20 or a fragment thereof, wherein the fragment exhibits a functional property of an intact subunit.

10. (Currently amended) The binding ~~compound~~ antibody or the antigen-binding fragment thereof of claim 9, wherein the binding ~~compound~~ antibody or antigen-binding fragment thereof blocks the interaction between OX2 and OX2R.

11. (Currently amended) The binding ~~compound~~ antibody or the antigen-binding fragment thereof of claim 9, wherein the binding ~~compound~~ antibody or the antigen-binding fragment thereof is a Fv, Fab, or Fab<sub>2</sub> fragment.

12. (Currently amended) The binding ~~compound~~ antibody or the antigen-binding fragment thereof of claim 9, wherein the binding ~~compound~~ antibody or the antigen-binding fragment thereof is conjugated to a chemical moiety.

13. (Currently amended) The binding ~~compound~~ antibody or the antigen-binding fragment thereof of claim 9, wherein the antibody or the antigen-binding fragment thereof is attached to a solid substrate.

14. (Currently amended) The binding ~~compound~~ antibody or the antigen-binding fragment thereof of claim 13, wherein the solid substrate is a bead or a plastic membrane.

15. (Currently amended) The binding ~~compound~~ antibody or the antigen-binding fragment thereof of claim 9, wherein the binding ~~compound~~ antibody or the antigen-binding fragment thereof binds the polypeptide of SEQ ID NO:20 or a fragment thereof, with a  $K_d$  of at least 30  $\mu$ M.

16. (Currently amended) The binding ~~compound~~ antibody or the antigen-binding fragment thereof of claim 9, wherein the polypeptide comprising mature SEQ ID NO:20 is a fusion protein.

17. (Currently amended) The binding ~~compound~~ antibody or the antigen-binding fragment thereof of claim 9, wherein the binding ~~compound~~ antibody or the antigen-binding fragment thereof is in a sterile composition.

18. (Currently amended) The binding ~~compound~~ antibody or the antigen-binding fragment thereof of claim 9, wherein the binding ~~compound~~ antibody or the antigen-binding fragment thereof is labeled with a detectable label.

19. (Currently amended) The binding ~~compound~~ antibody or the antigen-binding fragment thereof of claim 18, wherein the label is a fluorescent label or a radioactive label.

20. (Currently amended) The binding ~~compound~~ antibody or the antigen-binding fragment thereof of claim 9, wherein the binding ~~compound~~ antibody or antigen-binding fragment thereof binds the polypeptide comprising SEQ ID NO:20 or a fragment thereof when it is denatured.

21. (Currently amended) The binding ~~compound~~ antibody or the antigen-binding fragment thereof of claim 9, wherein the antibody is a polyclonal antibody.

22. (Currently amended) The binding ~~compound~~ antibody or the antigen-binding fragment thereof of claim 9, wherein the antibody is raised against a polypeptide comprising SEQ ID NO:20 or ~~some~~ [[a]] fragment thereof.

23. (Currently amended) A kit comprising:
- a) the binding ~~compound~~ antibody or the antigen-binding fragment thereof of claim 9;
  - b) a compartment for the binding ~~compound~~ antibody or the antigen-binding fragment thereof; and
  - c) instructions for use or disposal of reagents in the kit.